

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (original): Fibre-reinforced pressurizable structure
2 comprising a gas-or fluid-tight body overwound as an
3 isotensoide with a number of fibre filaments, whereby the
4 radius of the body varies with respect to a
5 rotation-symmetrical axis of the structure, such that said
6 body comprises a number of concave surface sections spaced
7 apart from the axial ends, each having a local minimum
8 radius, and a number of convex surface sections spaced apart
9 from the axial ends, each having a local maximum radius,
10 characterized in that at least one concave surface section
11 is overwound with a fibre such that the longitudinal
12 orientation of the fibre along a finite length thereof is
13 orientated substantially perpendicular with respect to the
14 rotation- symmetrical axis of the structure.

1 Claim 2 (original): Fibre-reinforced pressurizable structure
2 according to claim 1, characterized in that the fluid-tight
3 body is quasi-geodesically overwound in a continuous
4 fashion.

1 Claim 3 (currently amended): Fibre-reinforced pressurizable
2 structure according to claim 1-~~or~~-2, characterized in that
3 the finite length of the fibre comprises a locus at which
4 the fibre undergoes torsion with respect to its longitudinal
5 centre-line.

1 Claim 4 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~claim 1-^{or} 2~~, characterized in that
3 the finite length of the fibre comprises a locus at which
4 there is reversal of the side of the fibre which is in
5 contact with the body.

1 Claim 5 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-4~~claim 1, whereby a
3 parameter called the q-factor is defined as the square of
4 the dimensionless quotient of said local maximum radius of a
5 convex surface section adjacent to the concave surface
6 section in question and the local minimum radius of the
7 concave surface section in question, and whereby a
8 dimensionless parameter called the r-factor is defined as
9 the quotient of the total distribution of the external axial
10 load on the circumference of said local minimum radius and
11 the internal axial force generated by the internal pressure
12 on the surface of the axial section at said local maximum
13 radius, characterized in that when the q-factor and the
14 r-factor of the body have values in the ranges of $q = \{1, 8\}$
15 and $r = \{-1/q, -1/(2q)\}$, or $q = \{8, \infty\}$ and $r = \{0, -1/q\}$,
16 there is reversal of the side of the fibre which is in
17 contact with the concave surface section.

1 Claim 6 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-4~~claim 1, whereby a
3 parameter called the q-factor is defined as the square of
4 the dimensionless quotient of said local maximum radius of a
5 convex surface section adjacent to the concave surface
6 section in question and the local minimum radius of the
7 concave surface section in question, and whereby a
8 dimensionless parameter called the r-factor is defined as

9 the quotient of the total distribution of the external axial
10 load on the circumference of said local minimum radius and
11 the internal axial force generated by the internal pressure
12 on the surface of the axial section at said local maximum
13 radius, characterized in that when the q-factor and the
14 r-factor of the body have values in the ranges of $q = \{1,12\}$
15 and $r = \{-1/q,0\}$, the fibre is in contact with the concave
16 surface section in question with its one and same side
17 throughout.

1 Claim 7 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-6~~claim 1,
3 characterized in that the body is flexible, i.e. non-rigid,
4 and that the fibres are supported by a matrix material.

1 Claim 8 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-7~~claim 1,
3 characterized in that the axial length of at least one axial
4 section of the structure is variable with respect to the
5 longitudinal axis of the pressurizable structure.

1 Claim 9 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-7~~claim 1,
3 characterized in that at least one axial section of the
4 structure is pivotable with respect to the longitudinal axis
5 of the pressurizable structure.

1 Claim 10 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-7~~claim 1,
3 characterized in that at least one axial section of the
4 structure is pivotable with respect to an axis, which axis

5 is orthogonal with respect to the longitudinal axis of the
6 pressurizable structure.

1 Claim 11 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 8-10~~claim 8,
3 characterized in that at least one axial section of the
4 structure comprises a combination of at least two of the
5 technical elements of said claims, e.g. in that at least one
6 axial section of the structure is pivotable with respect to
7 the longitudinal axis of the pressurizable structure and
8 that the axial length of this axial section of the structure
9 is variable with respect to the longitudinal axis of the
10 pressurizable structure as in the case in which the
11 pressurizable structure comprises a substantially
12 hyperboloid shape.

1 Claim 12 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-11~~claim 1,
3 characterized in that the pressurizable structure comprises
4 a one-to three dimensional arrangement of a number of
5 pressurizable fuel tanks or pipelines.

1 Claim 13 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-12~~claim 1,
3 characterized in that the pressurizable structure comprises
4 a spring means for a load-displacement function, preferably
5 an adjustable load-displacement function.

1 Claim 14 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-12~~claim 1,
3 characterized in that the pressurizable structure comprises

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4 means for an actuating function, such as for elevators,
5 excavators and industrial robots.

1 Claim 15 (currently amended): Fibre-reinforced pressurizable
2 structure according to ~~any of claims 1-12~~claim 1,
3 characterized in that the pressurizable structure comprises
4 means for a shoring or strutting function, such as
5 construction beams.

1 Claim 16 (original): Fibre-reinforced pressurizable
2 structure according to claim 15, characterized in that the
3 means for a shoring or strutting function, such as
4 construction beams, are adaptable to the Eigen-frequencies
5 of the pressurizable structure.